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## TWO VARIETIES OF SISYMBRIUM OFFICINALE IN AMERICA.

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MR. J. C. PARLIN has recently sent to the Gray Herbarium some specimens of the hedge-mustard, *Sisymbrium officinale*, Scop., calling attention to a striking difference in their color and pubescence. Mr. Fernald and I have examined these plants, as well as the available literature regarding the species, and find that there are in America, as well as in the Old World, two markedly different forms of *Sisymbrium officinale*, which were clearly recognized by the eldest DeCandolle, although for the most part undistinguished by subsequent authors. These are:—

*S. OFFICINALE*, Scop. Rather copiously pubescent on stem and leaves; the inflorescence and pods even at full maturity subtomentulose: whole plant grayish or bluish green. — Fl. Carn. ed 2, ii. 26 (1772); DC. Syst. ii. 459 (where extensive early synonymy is given); Reichenb. Ic. Fl. Germ. ii. t. 72 (1838); Fournier, Fam. des Crucif. 83 (1865); Ett. & Pok. Phys. Pl. Aust. ix. t. 857 (1873); Sowerb. Eng. Bot. ed. 3, 143, t. 94 (1873); Rusby, Mem. Torr. Bot. Club, iii. pt. 3, p. 5 (1893); Rouy & Foucaud, Fl. de Fr. ii. 19 (1895). *Erysimum officinale*, L. Sp. Pl. ii. 660 (1753). *Brassica adpressa*, Parish, Zoe, i. 57 (1890); Robinson, Syn. Fl. i. pt. 1, 134 (1895); not Boiss. — Europe, common. In America as follows:—MAINE: waste ground, Brownville, 4 Aug. 1904, *J. C. Parlin*, no. 1756. CALIFORNIA: Chico, May, 1878, *Mrs. J. Bidwell*; Elk Grove near Sacramento, 1884, *Rev. J. C. Nevin*, no. 926; streets of San Bernardino, April, 1886, *S. B. Parish*, no. 1772; a common weed, Berkley, 24 June, 1892, *J. W. Blankinship*. BOLIVIA: Cochabamba, *Bang*, no.

888 (distributed under a manuscript varietal name which, happily, does not appear to have been published).

Var. *LEIOCARPUM*, DC. Sparingly pubescent with stiffish slightly retrorse hairs; the inflorescence nearly smooth; pods entirely glabrous or with a few scattered hairs: plant inclining to yellowish green.—Syst. ii. 460 (1821); Guss. Fl. Sic. ii. 188 (1843); Fournier, Fam. des Crucif. 85 (1865); Rouy & Foucaud, Fl. Fr. ii. 20 (1895). *S. leiocarpum*, Jord. Diag. 139 (1864). *S. officinale* of nearly all American authors. *Erysimum officinale*, Pursh, Fl. Bor. Am. ii. 436 (1814).—Very common in North America (the original specimen from South Carolina). In the Old World rather rare, reported as follows:—Teneriffe according to DC. l. c.; Sicily, according to Guss. l. c. (an occurrence further proved by Todaro's no. 829 from Palermo); here and there in various parts of France and Corsica, according to Rouy & Foucaud, l. c.

These two forms of *Sisymbrium officinale* furnish an interesting parallel with *Chrysanthemum Leucanthemum* and its variety *subpinatifidum*, described by Mr. Fernald (RHODORA, v. 181), and with *Lactuca Scariola* and its variety *integrata*, recently discussed by Mr. L. H. Dewey (RHODORA, vii. 9–12). In each instance the typical form of the species (by which I mean here only that form which was first characterized) is a plant widely distributed and abundant in the Old World, but rare, local, and probably of rather recent introduction in America, while the varieties, although relatively rare in the Old World have taken a firm hold in America and are now widely distributed on this continent as pernicious weeds.

It is evident that the typical form of *Sisymbrium officinale* in its American occurrence is as yet chiefly established in California, where the variety, so common in other parts of the United States, appears to be rather rare.

The variety *leiocarpum* is so readily distinguished that there will be a temptation on the part of many to consider it distinct, as did Jordan. But it has been impossible as yet to correlate with the difference of pubescence any other clear or constant distinction. There is, it is true, a general tendency in the smoother form to have more slender pods and a slightly longer style. These differences, however, are by no means constant and the other distinctions of leaf-contour, length of seed, etc., mentioned by Jordan, are quite as often reversed as true in the sense in which he applied them.

By way of summary it may be said that our common hedge-mustard, having smoothish inflorescence and essentially glabrous pods, should be called *Sisymbrium officinale*, var. *leiocarpum*, DC., while the typical hairy-podded form, hitherto chiefly European in its distribution, proves to have been some years established in California and has now been found in Maine. It is therefore likely to be found elsewhere in our country.

GRAY HERBARIUM.

## TWO FERNS NEW TO THE FLORA OF VERMONT.

CLARABEL GILMAN.

THE western half of Vermont is known as the home of rare and beautiful ferns, which grow among the mountains and upon the limestone rocks; but the portion east of the Green Mountains is not to be scorned by the student who delights in large and fine plants of the commoner ferns, as well as in new specimens of the rarer species. It was my good fortune last summer to find in the woods and on the hillsides of the town of Chester, Vermont, many unusually fine plants of some of the larger ferns, such as *Nephrodium spinulosum* and its variety *intermedium*, *Nephrodium Noveboracense*, *Athyrium filix-foemina* and *thelypteroides*, *Polystichum acrostichoides*, *Nephrodium marginale*, and *Struthiopteris Germanica*. *Woodsia Ilvensis*, *Asplenium ebeneum* and *Trichomanes*, and *Adiantum pedatum* are also among the natives of this region. Some fine specimens of *Botrychium lanceolatum* were gathered in a moist hollow on a hillside. Of course the common ferns of meadow, swamp, and pasture are found in Chester, as in most parts of New England. In all, 25 species and 6 varieties were gathered. But the special finds of the season were two varieties, one of which, so far as I have been able to learn, has not been previously reported in Vermont, and the other not in New England.

The first of these is Mr. Gilbert's variety *fructuosum* of *Nephrodium spinulosum*. The plants were first found August 18th. They grew around the base of a rock on the edge of a fine maple grove, and at once attracted attention by their richness and luxuriance of growth